Q-pads™

by mobility research

INSTRUCTIONS FOR USE

mobility research

Revision 0.2

mobility research

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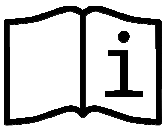
WARNING



Read the instructions for use before using the equipment

PREFACE

Thank you for choosing the Q-Pads - Interactive rehabilitation system. For your safety and to get the most out of the system we recommend reading these instructions carefully.

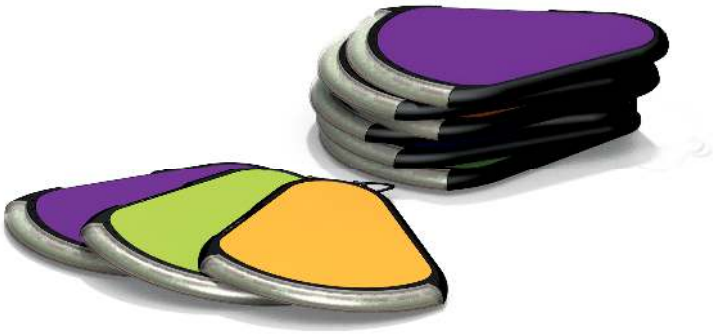


Fig. 1 Q-Pads

The Q-Pads are designed and developed as an interactive rehabilitation system providing the user and therapist a visual feedback signal (biofeedback) as a response upon an action.

They will add a motivation element when doing exercises or rehabilitation of persons with indication for physical and/or cognitive exercise.

The Q-Pads must not be used for any kind of diagnostics purpose

I. BEFORE USE

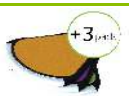
Included Items

Please identify your system components and accessories included in the package and inspect the contents for any physical damages by

ITEM	CONTENT	DESCRIPTION
	6 x Pads	Q-Pads 6 Pack
	9 x Pads	Q-Pads 9 Pack
	12 x Pads	Q-Pads 12 Pack

Additional Items

Additional items which may be ordered separately are shown in the

ITEM	DESCRIPTION
	Q-Pads Wall mounting board (color varies)
	Q-Pads Additional 3-units

Only original accessories are to be used with the system.

The above additional items may be ordered separately from your local dealer.

Overview

The Q-Pads features are shown below.

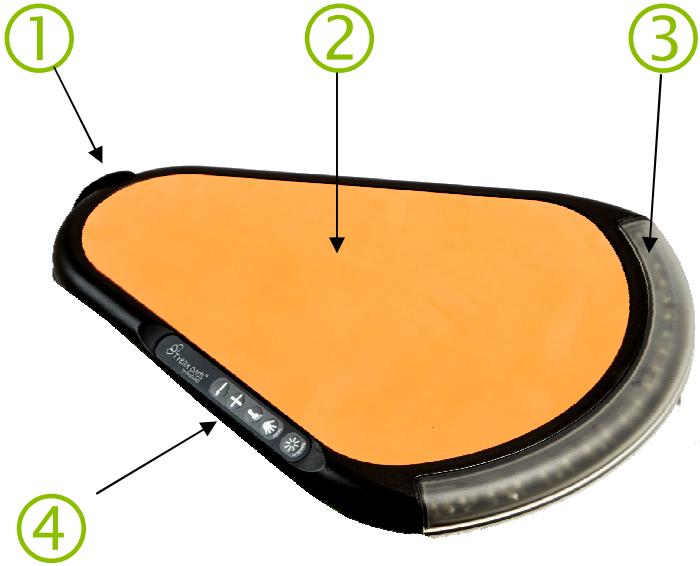


Fig. 3 Q-Pads, functions

References (fig.3)

1. Q-Pad
2. Pressure sensitive surface.
3. Visual feedback (multicolored LEDs)
4. User interface

II. USING THE Q-PADS

Safety

Before use, always ensure the pads rest firmly on the floor and the person using them is able to have a good grip on top of them.

Do not use a pad if it is damaged.

Never use high heels or sharp items against the pads.

If necessary use extra support (e.g. LiteGait, rails, bars, hoists) to avoid the user from falling over the pads.

The Q-Pads contains strong magnets and special care must be take. Never use the pads close to magnetic sensitive equipment or persons

OVERLOAD

The Q-Pads are constructed to carry a load of max. 330 lbs. Exceeding max weight capacity may damage Q-Pads or reduce user safety.

Never use the pads by person over 330 lbs.

Functions

The Q-Pads offer a number of different functions and user scenarios. Below you'll find a description of these along with the user scenarios for inspiration.

User Interface

Fig. 4

No.	TEXT	DESCRIPTION
5	**RANDOM** **REACTION** **(hold 2 sec.)**	I. Choose the random function. II. Choose the Reaction function
6	**HAND**	Choose the force indication scale (hands).
7	**FOOT** **BALANCE** **(hold 2 sec.)**	I. Choose the force indication scale (feet). II. Choose the balance function
8	+	Sensitivity adjustment: Hand scale: +5 kg (11 lbs) Foot scale: +15 kg (33 lbs) Random: +1 kg (2.2 lbs) Reaction: +1 sec.
9	-	Sensitivity adjustment: Hand scale: -5 kg (11 lbs) Foot scale: -15 kg (33 lbs) Random: -1 kg (2.2 lbs) Reaction: -1 sec.

Force indication scale

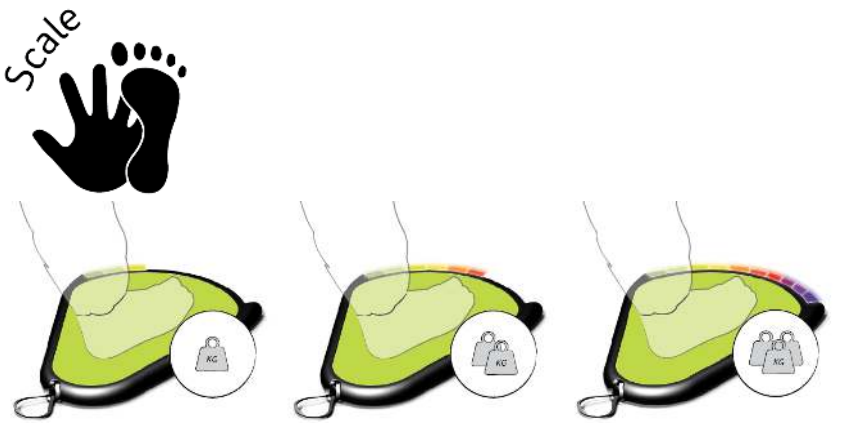


Fig. 5 Force indication scale

The force indication scale may be activated either by hand or foot to exercise the upper and/or lower extremities, respectively.

Press the **HAND** button (6, fig. 4) to choose the hand force indication scale or press the **FOOT** button (7, fig.4) to choose the foot force indication scale.

When the appropriate mode is selected, the pads react to the amount of force or weight applied to each of them. The light scale at the front of the pads responds dynamically to change in force or weight applied by the user. This biofeedback clarifies and aids understanding of how changes in motor actions or body posture affect the force or weight applied to the pads. The scale can be set to react to the amount of force suitable for each user by adjusting max. load. The pads sense if the weight is distributed all over the foot (both heel and forefoot) and will disclose if this is not the case and the user needs to correct his/her postural control.

The scale or sensitivity of the pad can be adjusted using the “+” (8, fig. 4) and “-” (9, fig. 4) buttons. Each step equals to an approx. change of the user weight of 22 lbs. (from 44 to 220 lbs).

Force indication scale - HAND

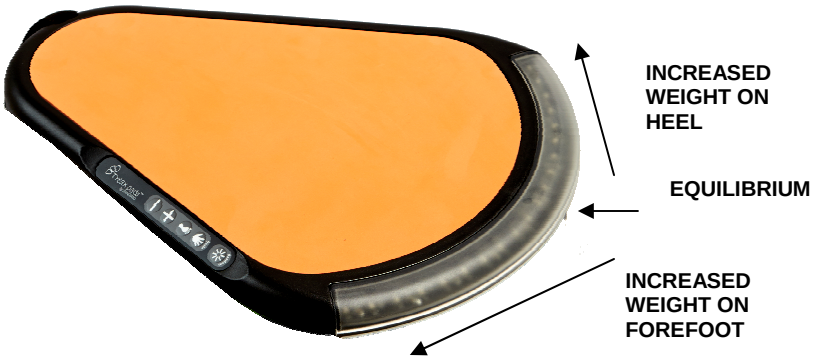
Step	1	2	3	4	5	6	7	8	9	10
Color	Red	Pink	Or-ange	Yellow	Light green	Green	Light Blue	Blue	Light purple	Purple
Approx. full scale force (lbs)	11	22	33	44	55	66	77	88	99	110

Force indication scale - FOOT

Step	1	2	3	4	5	6	7	8	9	10
Color	Red	Pink	Or-ange	Yellow	Light green	Green	Light Blue	Blue	Light purple	Purple
Approx. full scale force (lbs)	33	66	99	132	165	198	231	265	297	330

Heel/forefoot force indication scale

Press and hold the FOOT (7, fig.4) for approx. 2 seconds to choose the heel/forefoot indication scale.
When force/weight is applied to the pad it's visualized how the force/ weight distribution between the heel and forefoot is distributed in a simple manner.



Increased force/weight on the heel is illustrated by blue LEDs to the left side

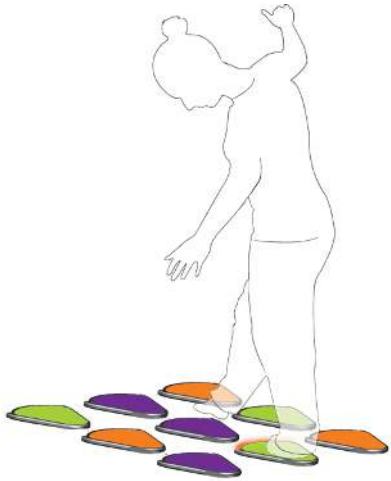
Increased force/weight on the forefoot is illustrated by blue LEDs to the right side.

Equilibrium is illustrated by white LEDs in the middle.

The scale or sensitivity of the pad can be adjusted using the “+” (8, fig. 4) and “-” (9, fig. 4) buttons. Each step equals to an approx. change of the user weight 15 kg/33 lbs. (from 33t o 330 lbs).

Random function

The random function is chosen by pressing the RANDOM button (5, fig. 4).



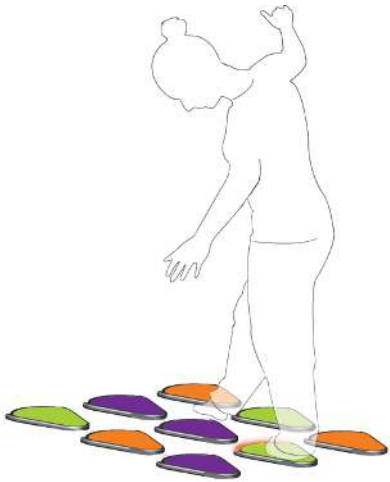
When the Random function is selected, the Q-Pads react to any activation by hand or foot with a random color light signal.

The Q-Pads come in three different colors, the random light signal corresponds to these three colors. When the user receives a light signal he/she should navigate to a pad of that specific color. Activating the next pad will provide another random color light signal, directing the user further. Unlike the force indication scale, this function does not react to the amount of force applied to it, but only to the activation. Therefore, exercises using this mode have less focus on applied force or weight and more focus on cognitive challenges such as reaction time, concentration and visuo-motor coordination.

The sensitivity of the pad can be adjusted using the”+” (8, fig. 4) and ”-” (9, fig. 4) buttons. Each step equals a change in sensitivity of approx. 1 kg (2.2 lbs) from 1 to 10 kg / 2.2 to 22 lbs).

Reaction function

HOLD 2 sec.



The Reaction function is selected by pressing RANDOM for 2 seconds. Using the reaction function, you can set the pads so that they are activated randomly in different time intervals. Speed is adjusted using + and – buttons from 1 second to 10 seconds. Pause duration is changed in the same way from short to long.

Here it is necessary to activate the pads before the time is up. If you activate the pad in time, it will respond with a blinking white light. The lights will be either blue or red, making it possible to make rules for advanced exercises. For example, you can let the user activate the red light with his/her left foot/hand and the blue light with his/ her right foot/hand.

Use the reaction function for high speed activities, for example, or reaction exercises, eye/hand coordination or ”neglect”. In addition to adjusting speed with the + and – buttons, variation in level of difficulty in exercises can be easily attained by adjusting number of pads used and the distances between them.

After 10 minutes of inactivity in the Reaction function the Q-pads will automatically shut-off. To restart the Q-Pad, hold the RANDOM button to restart the Reaction mode or select an different function button.

Transportation

Always protect the Q-Pads in the included bag/ bags during transportation and when they are not in use.
Avoid dropping the pads as it can damage them.

III. MAINTANENCE

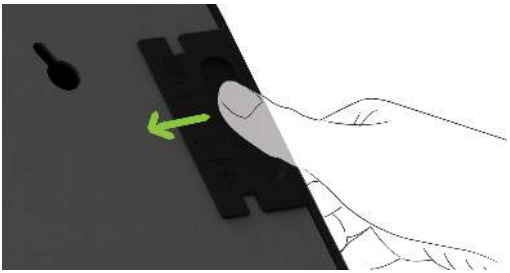
Cleaning the equipment

The Q- Pads should be cleaned on a regular basis depending on the use of them. To clean the pads, us a soft cloth and a little warm water.

Avoid allowing water and cleaners to penetrate the pads

Batteries

The Q-Pads come with 4 x AAA (LR03) batteries. To exchange the batteries follow the below description



The battery lid is located on the back of the back side of the pads and is opened by sliding the lid to the left as illustrated above.
The batteries can be removed (e.g. by using a small screwdriver) and 4 new batteries inserted with the positive pole upward. Place the battery lid over the battery compartment and slide it to the right.

To Avoid leakage of acid from the batteries and prevent damage to the pads,, always remove the batteries from the pads when not used for a long period of time.

Service and Repair

The Q-Pads contain no serviceable parts inside. Pleas refer servicing to qualified authorized service personnel.

Loss of warranty

In case of any repair or maintenance tasks are carried out by non authorized personnel the warranty for the product is no longer valid.

Any damage cause by misuse of the product (different from the intended use described in this instructions for use guide) will not be covered by the warranty.

TECHNICAL SPECIFICATIONS

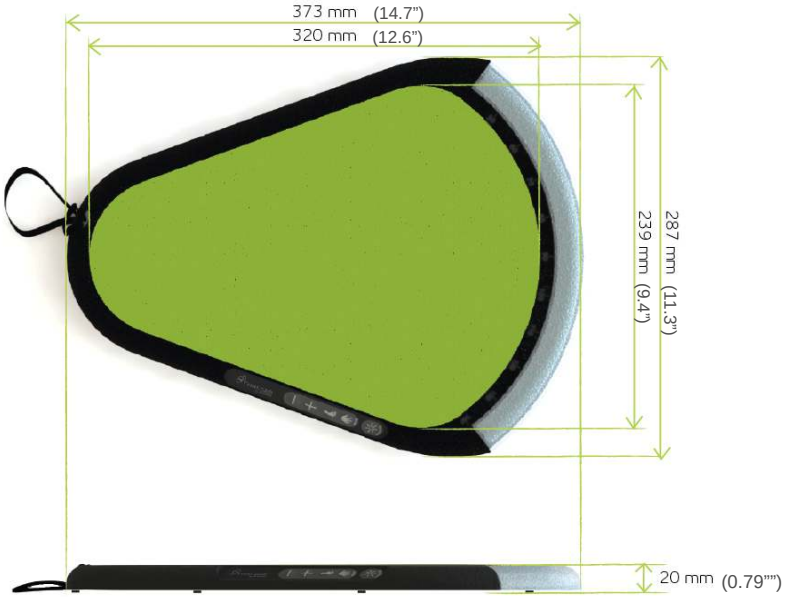
The technical specification for the Q-Pads are listed below

DESCRIPTION	
Weight	2.5 lbs / Pad
Batteries	4 x AAA (LR03)
No. of user weight intervals	10
Min. user weight	33 lbs
Max. user weight	330 lbs
Operation temperature	41° - 95° F
Storage temperature	14° - 113° F
Max. humidity	90% RH
Approvals	CE (EN60950)

We reserve the right to make changes without notice.

PHYSICAL DIMENSIONS

Q-Pads



CONFORMITY

The products covered by this instruction for use guide are manufactured in conformity with the provisions of the European standard: "Safety of information technology equipment", EN60950.